Amendments to the Claims:

1. (currently amended) A method of controlling a genetically-modified multi-cellular organism or a part thereof, comprising the following steps:

(a) providing a multi-cellular organism or a part thereof, whereby cells of said multi-cellular organism or said part contain a heterologous nucleic acid, and

(b) causing expression of a protein from said heterologous nucleic acid in at least some of said cells,

wherein said protein is capable of

(i) leaving a cell and entering other cells of said multi-cellular organism or a part thereof,

(ii) causing expression of said protein in cells containing said heterologous nucleic acid, and optionally

(iii) controlling a cellular process of interest.

2. (currently amended) The method of ~~one of claims~~ claim 1, wherein cells of said multi-cellular organism or a part thereof contain an additional heterologous nucleic acid that is controlled by said protein.

3. (original) The method of claim 2, wherein said protein causes the production of an RNA and/or a polypeptide from said additional heterologous nucleic acid.

4. (currently amended) The method of claim 2 ~~or 3~~, wherein said protein causes formation of an expressible operon from said additional heterologous nucleic acid or from an RNA expression product of said additional heterologous nucleic.

5. (currently amended) The method of claim 2 ~~or 3~~, wherein said protein causes formation of an expressible amplicon from said additional heterologous nucleic acid or from an RNA expression product of said additional heterologous nucleic.

6. (currently amended) The method of ~~one of claims~~ claim 1 ~~to 5~~, wherein said protein has

(a) a segment that is capable of causing said expression of said protein and/or

(b) a segment that is capable of controlling said cellular process.

7. (original) The method of claim 6, wherein one of said segments has a DNA or RNA modifying activity.

8. (original) The method of claim 7, wherein said segment is selected from site-specific recombinases, flippases, resolvases, integrases, transposases.

9. (currently amended) The method of ~~one of claims~~ claim 1 ~~to 8~~, wherein said causing expression of said protein in step (b) comprises applying an external signal.

10. (original) The method of claim 9, wherein said external signal is selected from the following group: small molecular organic compound, metal ions, a polypeptide, a protein, a nucleic acid, a pathogen, a virus, a bacterium, a fungus, light, temperature change.

11. (currently amended) The method of claim 9 ~~or 10~~, wherein said external signal applied in step (b) is a polypeptide comprising a membrane translocation sequence for enabling entering of said polypeptide into a cell of said multi-cellular organism or of a part thereof.

12. (currently amended) The method of ~~one of claims~~ claim 10 ~~or 11~~, wherein the application of said polypeptide does not involve introduction of nucleic acids in cells that code for said polypeptide or for a part of said polypeptide.

13. (currently amended) The method of claim 9 ~~or 10~~, wherein said signal is a polypeptide that is applied by a pathogenic microorganism that has a system of delivery of a polypeptide into a host cell.

14. (original) The method of claim 13, wherein said pathogenic microorganism is a virulent or non-virulent *Agrobacterium*.

15. (original) The method of claim 13, wherein said pathogenic microorganism is phytoathogenic and is a virulent or non-virulent bacterium that is endowed with a type-III secretion system.

16. (original) The method according to claim 15, wherein said phytopathogenic microorganism is a virulent or non-virulent bacterium selected from the following genera: Bordetella, Erwinia, Pseudomonas, Xanthomonas, Yersinia.

17. (currently amended) The method of ~~one of claims~~ claim 1 ~~to 16~~, wherein said leaving a cell and entering other cells comprises cell-to-cell movement or systemic movement in said multi-cellular organism or a part thereof.

18. (currently amended) The method of ~~one of claims~~ claim 1 ~~to 17~~, wherein said protein contains a protein portion enabling said leaving a cell and entering other cells.

19. (original) The method of claim 18, wherein said protein portion is a domain of a viral movement protein or of a viral coat protein.

20. (original) The method of claim 18, wherein said protein portion is a domain of a plant or animal transcription factor capable of cell-to-cell or systemic movement.

21. (original) The method of claim 18, wherein said protein portion is a domain of a plant or animal peptide intercellular messenger.

22. (original) The method of claim 18, wherein said protein portion is an artificial peptide capable of enabling cell-to-cell or systemic movement.

23. (currently amended) The method of ~~one of claims~~ claim 1 ~~to 22~~, wherein said multi-cellular organism or part thereof provided in step (a) is a transgenic multi-cellular organism containing said heterologous nucleic acid stably integrated in the nuclear and/or the plastid genome of the cells.

24. (currently amended) The method of ~~one of claims~~ claim 1 ~~to 22~~, wherein cells of said multi-cellular organism or part thereof provided in step (a) are transiently transformed with said heterologous nucleic acid.

25. (currently amended) The method of ~~one of claims~~ claim 2 ~~to 5~~, wherein said additional heterologous nucleic acid is stably integrated in the genome of said multi-cellular organism or part thereof.

26. (currently amended) The method of ~~one of claims~~ claim 1 ~~to 25~~, wherein said multi-cellular organism is a higher plant.

27. (original) A genetically-modified multi-cellular organism or a part thereof containing a heterologous nucleic acid in cells thereof, whereby said heterologous nucleic acid is adapted such that

(a) expression of a protein from said heterologous nucleic acid can be caused in cells containing said heterologous nucleic and

(b) said protein is capable of leaving a cell and entering other cells of said multi-cellular organism or a part thereof, and

(c) said protein is capable of controlling expression of said protein in cells containing said heterologous nucleic acid and

(d) optionally, controlling a cellular process of interest.

28. (original) The genetically-modified multi-cellular organism or a part thereof according to claim 27, wherein said multi-cellular organism is a plant.

29. (currently amended) The genetically-modified organism or a part thereof as further defined in ~~one of claims~~ claim 2 ~~to 26~~.

30. (currently amended) A system of controlling expression of a protein, comprising a genetically-modified multi-cellular organism as defined in ~~one of claims~~ claim 27 ~~to 29~~ and a signal ~~according to claims 9 to 14~~ for causing an expression of said protein, whereby said multi-cellular organism and said signal are designed such that expression of said protein can be initiated by externally applying said signal to said multi-cellular organism or a part thereof.

31. (currently amended) A stably or transiently genetically-modified multi-cellular organism or parts thereof obtained or obtainable by the method of ~~one of claims~~ claim 1 ~~to 26~~.

32. (currently amended) A ~~Composition~~ composition for external application to a multi-cellular organism according to ~~claims~~ claim 27 ~~to 29~~, whereby said composition contains a polypeptide or protein ~~as defined in one of claims 10 to 14~~, said polypeptide or protein being a signal for causing expression of a protein in [[a]] said genetically-modified multi-cellular organism ~~according to one of claims 27 to 29~~.

33. (currently amended) The ~~Composition~~ composition according to claim 32, whereby said composition comprises cells of Agrobacterium, said Agrobacterium containing a polypeptide or protein ~~according to claim 32 as~~ that is capable of being a signal for causing expression of a protein in [[a]] said genetically modified multicellular organism ~~according to one of claims 27 to 29~~.

34. (currently amended) The composition according to ~~one of claims~~ claim 32 ~~or 33~~, comprising bacterial cells endowed with a type-III protein secretion system, whereby said cells contain said polypeptide or protein.